CLAIMS

What is claimed is:

1. A method of matching at least one multi-attribute bid from one or more buyers and at least one multi-attribute bid from one or more sellers, comprising:

selecting a pair of bids between each buyer and each seller, the pair of bids having a highest surplus;

generating a weighted bipartite graph comprising buyer nodes and seller nodes and an edge between each buyer node and each seller node, each edge having the highest surplus of the pair of bids between the buyer and seller as a weight; and

10   determining maximal weighted matching bids from the highest surplus pairs of bids using the weighted bipartite graph.

2. The method of claim 1, wherein each buyer is associated with at most one maximal weighted matching bid and each seller is associated with at most one maximal

15   weighted matching bid.

3. The method of claim 1, wherein said selecting the highest surplus pair of bids between each buyer and each seller includes determining a value associated with each bid of a buyer and each bid of a seller.

20

4. The method of claim 3, wherein said highest surplus of a pair of bids between each buyer and each seller is a highest difference between the value of each bid of the buyer and the value of each bid of the seller.

5.   The method of claim 1, further comprising collecting at least one multi-attribute bid from one or more buyers and at least one multi-attribute bid from one or more sellers, each bid having a plurality of attributes specified by a buyer or seller.

5

6.   The method of claim 5, wherein each bid has at least one predetermined attribute.

7.   The method of claim 5, wherein said plurality of attributes are specified

10   relative to a uniform measurement unit.

8.   The method of claim 7, wherein said uniform measurement unit is a monetary unit.

15   9.   The method of claim 7, wherein each bid has a price associated therewith, the price being expressed in terms of the uniform measurement unit.

10.   The method of claim 9, wherein said selecting the highest surplus pair of bids between each buyer and each seller includes determining a difference between the

20   price of each buyer bid and the price of each seller bid.

11.   The method of claim 1, wherein each bid has a plurality of attributes, at least a portion of the attributes being specified by a buyer or seller and wherein said determining the highest value pair of bids between each buyer and each seller further includes:

5   generating bids for each buyer from the plurality of attributes;

generating bids for each seller from the plurality of attributes;

comparing attributes of each bid of each buyer with attributes of each bid of each seller.

10   12.   The method of claim 11, wherein said determining the highest value pair of bids between each buyer and each seller further includes generating a list of matching bids between each buyer and each seller, each matching bid having compatible attributes.

13.   The method of claim 12, wherein said highest surplus pair of bids between 15   each buyer and each seller is selected from said list of matching bids.

14.   The method of claim 11, wherein said compatible attributes includes a buyer price lower than or equal to a seller price.

20   15.   The method of claim 11, wherein said generating the list includes discarding pairs of bids between each buyer and each seller where a buyer price is lower than a seller price.

16. A dynamic trading method, comprising:

collecting at least one set of multi-attribute bid values from one or more buyers and at least one set multi-attribute bid values from one or more sellers;

generating buyer bids from said at least one set of buyer multi-attribute bid values and seller bids from said at least each set of seller multi-attribute bid values; and

selecting a pair of compatible bids between each buyer and each seller, the pair of bids having a highest difference in bid values.

17. The dynamic trading method of claim 16, wherein each bid value is a price, the price being expressed in terms of the uniform measurement unit.

18. The dynamic trading method of claim 16, wherein said selecting the highest difference pair of bids includes determining a bid value associated with each bid of a buyer and each bid of a seller.

19. The dynamic trading method of claim 18, wherein said collecting the multi-attribute bid values includes collecting a set of nominal attribute values, including a nominal bid value.

20. The dynamic trading method of claim 19, wherein said collecting the multi-attribute bid values further includes collecting variances to the nominal attribute values of at least one attribute and a corresponding variance relative to said nominal bid value.

21.   The dynamic trading method of claim 20, wherein said generating the multi-attribute bids includes determining the bid value for each combination of attribute values for each buyer and each seller.

5   22.   The dynamic trading method of claim 20, wherein said bid value and said variances to the bid value are specified in a uniform measurement unit.

23.   The dynamic trading method of claim 22, wherein said uniform measurement unit is a monetary unit.

10

24.   A method of generating multi-attribute bids, comprising:

collecting at least one set of multi-attribute bid values, each set of multi-attribute bid values having a set of nominal attribute values including a nominal bid value, said collecting also includes collecting at least one variance to the nominal

15   attribute value of at least one attribute and a corresponding variance relative to said nominal bid value;

generating a set of bids for each set of multi-attribute bid values, each bid having a different combination of attribute values based on corresponding variances and nominal attribute values; and

20   generating a bid value for each bid based upon the combination of attribute values.

25. The method of claim 24, wherein said collecting includes collecting at least one set of multi-attribute bid values from a buyer and collecting at least one set of multi-attribute bid values from a seller, the buyer and seller having a same set of attributes.

5   26. The method of claim 25, at least one attribute of said same set of attributes is selected from the group consisting of a predetermined buyer attribute and a predetermined seller attribute.

27. The method of claim 24, wherein said collecting includes collecting a bid
10   value limit selected from the group consisting of a minimum bid value and a maximum bid value, said method further comprising discarding bids from said set of bids having a bid value outside of the bid value limit.

28. A computer program product for managing dynamic trading, comprising:
            computer code that collects at least one set of multi-attribute bid values from
15   one or more buyers and at least one set of multi-attribute bid values from one or more sellers;
            computer code that generates buyer bids from said at least one set of buyer multi-attribute bid values and seller bids from said at least one set of seller multi-attribute
20   bid values;
            computer code that selects a pair of compatible bids between each buyer and each seller, the pair of bids having a highest difference in bid values; and
            a computer readable medium that stores the computer codes.

29.   The computer program product of claim 28, wherein the computer readable

medium is selected from the group consisting of CD-ROM, zip disk, floppy disk, tape,

flash memory, system memory, hard drive, and data signal embodied in a carrier wave.

5

30.   The computer program product of claim 28, further comprising:

computer code that generates a weighted bipartite graph, the weighted

bipartite graph comprising buyer nodes and seller nodes and an edge between each buyer

node and each seller node, each edge having the highest difference in bid values of the

10   pair of bids between the buyer and seller as a weight; and

computer code determines maximal weighted matching bids from the

highest difference pairs of bids using the weighted bipartite graph.